

PATENT  
Attorney Docket No. 08157.0014  
CUSTOMER NUMBER 22,852

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Continuation of: )  
PCT/IE00/00053 )  
Inventors: David VALE et al. ) Group Art Unit:  
Serial No.: Not Yet Assigned ) Examiner:  
Filed: November 6, 2001 )  
For: IMPROVED FILTER ELEMENT )  
FOR EMBOLIC PROTECTION )  
DEVICE )

**Assistant Commissioner for Patents  
Washington, DC 20231**

Sir:

**PRELIMINARY AMENDMENT**

Prior to examination, please amend the above-identified application as follows:

**IN THE SPECIFICATION:**

Please amend the specification as follows:

Page 1, after the title, insert the following headings and subheading and new paragraph as follows:

**--CROSS REFERENCE TO RELATED APPLICATIONS**

This application is a continuation of international application number PCT/IE00/00053, filed May 8, 2000, the content of which is incorporated herein by reference, and claims the priority of PCT International Application No. PCT/IE99/00036,

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filed May 7, 1999, and PCT International Application No. PCT/IE99/00033, filed May 7, 1999.

**IN THE CLAIMS:**

Please replace now pending claims 4-8, 12, 13, 16-20, 22-26, 29, 30, 36, 38-41, 45, 46, 52-56, 58 and 59 with the following complete set of claims:

4. (Amended) A filter as claimed in claim 1, wherein the membrane is of a material selected from one or more of polyether block amide (PEBAX), polyester, polyethylene, polyurethane, terephthalate, nylon or, as appropriate, copolymers thereof.
5. (Amended) A filter element as claimed in claim 1, wherein the coating is at least partially of a material selected from a non thrombogenic material and a fluoropolymer material.
6. (Amended) A filter element as claimed in claim 1, wherein the coating is of a hydrophilic material.
7. (Amended) A filter element as claimed in any of claims 1 to 6 wherein the coating is of a hydrogel material.
8. (Amended) A filter element as claimed in claim 1, wherein the coating includes a physiologically acceptable additive.
12. (Amended) A filter element as claimed claim 1, wherein the filter body is surface treated prior to application of the coating.
13. (Amended) A filter element as claimed in claim 1, wherein the filter body comprises a proximal body section, a distal body section and an intermediate body section interconnecting the proximal and distal body sections, one or more of the body sections being of laminate construction.

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16. (Amended) A filter element as claimed in claim 1, wherein the filter body has regions of varying hardness or stiffness.
17. (Amended) A filter element as claimed in claim 1, wherein the filter body has a durometer of between 60D and 70A Shore hardness.
18. (Amended) A filter element as claimed in claim 1, wherein the filter body has a first relatively stiff portion and a second relatively soft portion.
19. (Amended) A filter element as claimed in claim 1, wherein one portion or section of the filter body has a larger wall thickness than the wall thickness of another section or portion.
20. (Amended) A filter element as claimed in claim 1, wherein the filter body comprises a proximal body section and a distal body section, one of which forms a stiff first portion and the other of which forms a soft second portion.
22. (Amended) A filter element as claimed in claim 18, wherein the filter body comprises a proximal body section and a distal body section interconnected by an intermediate body section, one or both of the proximal body section and the intermediate body section forming the soft second portion, the distal body section forming the stiff first portion.
23. (Amended) A filter element as claimed in claim 1, wherein the proximal body section has a ribbed outer surface.
24. (Amended) A filter element as claimed in claim 1, wherein a plurality of spaced-apart longitudinal ribs are provided on the proximal section.
25. (Amended) A filter element as claimed in claim 1, wherein the proximal body section includes corrugations.

26. (Amended) A filter element as claimed in claim 1, wherein the filter body has expansion means to facilitate retrieval of the captured embolic material.

29. (Amended) A filter element as claimed in claim 1, wherein the filter body includes an intermediate portion extending proximally of the distal portion, the intermediate portion being of a membrane material that is stretchable.

30. (Amended) A filter element as claimed in claim 1, wherein the filter body is a membrane of a memory material.

36. (Amended) A filter element as claimed in claim 34, wherein the filter body comprises a proximal body section and a distal body section, one of which forms said stiff first portion and the other forming the soft second portion.

38. (Amended) A filter element as claimed in claim 34, wherein the filter body comprises a proximal body section and a distal body section interconnected by an intermediate body section, one or both of the proximal body section and the intermediate body section forming the soft second portion, the distal body section forming the stiff first portion.

39. (Amended) A filter element as claimed in claim 36, wherein the proximal body section has a ribbed outer surface.

40. (Amended) A filter element as claimed in claim 36, wherein a plurality of spaced-apart longitudinal ribs are provided on the proximal section.

41. (Amended) A filter element as claimed in claim 36, wherein the proximal body section includes corrugations.

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45. (Amended) A filter element as claimed in claim 42, wherein the filter body includes an intermediate portion extending from the distal portion, the intermediate portion being of a membrane material that is stretchable.

46. (Amended) A filter element as claimed in claim 43, wherein the membrane is of a memory material.

52. (Amended) A device as claimed in claim 49, wherein said frame is constructed such that filter body is biased toward said second, deployed configuration.

53. (Amended) A device as claimed in claim 50, wherein said inlet openings are defined at least partially by said arms.

54. (Amended) A device as claimed in claim 50, wherein proximal portions of said arms extend generally outwardly and distally from said guidewire when said filter body is in said second, deployed configuration.

55. (Amended) A device as claimed in claim 50, wherein distal portions of said arms extend generally outwardly and proximally from said guidewire when said filter body is in said second, deployed configuration.

56. (Amended) A device as claimed in claim 48, wherein the distal portion of the tubular member further includes a pod for receiving therein the filter body when in said first, collapsed configuration.

58. (Amended) A device as claimed in claim 48, wherein said guidewire is solid.

59. (Amended) A device of any of claims 48 to 58 wherein said filter body comprises a sleeve slidably disposed on said guidewire.

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**IN THE ABSTRACT:**

Add a new page 45 after the claims, adding the following ABSTRACT OF THE DISCLOSURE. A new separate page 45 is enclosed.

**REMARKS**

The presentation of a clean set of claims is permitted under new rule 37 C.F.R. §1.121 (c)(3), effective November 7, 2000. An amended form of claims 4-8, 12, 13, 16-20, 22-26, 29, 30, 36, 38-41, 45, 46, 52-56, 58 and 59 is attached for the Examiner's convenience pursuant to new rule 37 C.F.R. §1.21(c)(1)(ii). No new matter has been introduced by these amendments.

The examiner is respectfully requested to consider the above preliminary amendment prior to examination of the application.

If there are any other fees due in connection with the filing of this amendment, please charge the fees to Deposit Account No. 06-0916. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our deposit account.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: November 6, 2001

By:   
Ernest F. Chapman  
Reg. No. 25,961

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## ANNEXES TO THE PRELIMINARY AMENDMENT

### **CLAIM AMENDMENTS**

Applicants submit the following claims with strikeouts and underlining for the Examiner's convenience as required by new rule 37 C.F.R. 1.121 (c)(1)(ii). This paper is not intended to be entered.

4. (Amended) A filter as claimed in ~~any preceding claim~~ claim 1, wherein the membrane is of a material selected from one or more of polyether block amide (PEBAX), polyester, polyethylene, polyurethane, terephthalate, nylon or, as appropriate, copolymers thereof.
5. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the coating is at least partially of a material selected from a non thrombogenic material and a fluropolymer material.
6. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the coating is of a hydrophilic material.
7. (Amended) A filter element as claimed in ~~any of claims 1 to 6~~ claim 1, wherein the coating is of a hydrogel material.
8. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the coating includes a physiologically acceptable additive.
12. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the filter body is surface treated prior to application of the coating.
13. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the filter body comprises a proximal body section, a distal body section and an

intermediate body section interconnecting the proximal and distal body sections, one or more of the body sections being of laminate construction.

16. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the filter body has regions of varying hardness or stiffness.

17. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the filter body has a durometer of between 60D and 70A Shore hardness.

18. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the filter body has a first relatively stiff portion and a second relatively soft portion.

19. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein one portion or section of the filter body has a larger wall thickness than the wall thickness of another section or portion.

20. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the filter body comprises a proximal body section and a distal body section, one of which forms a stiff first portion and the other of which forms a soft second portion.

22. (Amended) A filter element as claimed in ~~any of claims 18 to 24~~ claim 18, wherein the filter body comprises a proximal body section and a distal body section interconnected by an intermediate body section, one or both of the proximal body section and the intermediate body section forming the soft second portion, the distal body section forming the stiff first portion.

23. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein the proximal body section has a ribbed outer surface.

24. (Amended) A filter element as claimed in ~~any preceding claim~~ claim 1, wherein a plurality of spaced-apart longitudinal ribs are provided on the proximal section.

25. (Amended) A filter element as claimed in any preceding claim claim 1, wherein the proximal body section includes corrugations.

26. (Amended) A filter element as claimed in any preceding claim claim 1, wherein the filter body has expansion means to facilitate retrieval of the captured embolic material.

29. (Amended) A filter element as claimed in any of the preceding claim claim 1, wherein the filter body includes an intermediate portion extending proximally of the distal portion, the intermediate portion being of a membrane material that is stretchable.

30. (Amended) A filter element as claimed in any preceding claim claim 1, wherein the filter body is a membrane of a memory material.

36. (Amended) A filter element as claimed in claims 34 or 35, wherein the filter body comprises a proximal body section and a distal body section, one of which forms said stiff first portion and the other forming the soft second portion.

38. (Amended) A filter element in any of claims 34 to 37 as claimed in claim 34, wherein the filter body comprises a proximal body section and a distal body section interconnected by an intermediate body section, one or both of the proximal body section and the intermediate body section forming the soft second portion, the distal body section forming the stiff first portion.

39. (Amended) A filter element as claimed in any of claims 36 to 38 claim 36, wherein the proximal body section has a ribbed outer surface.

40. (Amended) A filter element as claimed in any of claims 36 to 39 claim 36, wherein a plurality of spaced-apart longitudinal ribs are provided on the proximal section.

41. (Amended) A filter element as claimed in ~~any of claims 36 to 40~~ claim 36, wherein the proximal body section includes corrugations.

45. (Amended) A filter element as claimed in ~~any of claims 42 to 44~~ claim 42, wherein the filter body includes an intermediate portion extending from the distal portion, the intermediate portion being of a membrane material that is stretchable.

46. (Amended) A filter element as claimed in ~~any of claims 43 to 45~~ claim 43, wherein the membrane is of a memory material.

52. (Amended) A device of ~~any of claims 49 to 51~~ as claimed in claim 49, wherein said frame is constructed such that filter body is biased toward said second, deployed configuration.

53. (Amended) A device of ~~any of claims 50 to 52~~ as claimed in claim 50, wherein said inlet openings are defined at least partially by said arms.

54. (Amended) A device of ~~any of claims 50 to 52~~ as claimed in claim 50, wherein proximal portions of said arms extend generally outwardly and distally from said guidewire when said filter body is in said second, deployed configuration.

55. (Amended) A device of ~~any of claims 50 to 54~~ as claimed in claim 50, wherein distal portions of said arms extend generally outwardly and proximally from said guidewire when said filter body is in said second, deployed configuration.

56. (Amended) A device of ~~any of claims 48 to 55~~ as claimed in claim 48, wherein the distal portion of the tubular member further includes a pod for receiving therein the filter body when in said first, collapsed configuration.

58. (Amended) A device of ~~any of claims 48 to 57~~ as claimed in claim 48, wherein said guidewire is solid.

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59. (Amended) A device of any of claims 48 to 58 as claims in claim 48, wherein  
said filter body comprises a sleeve slidably disposed on said guidewire.

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